**Part One: Health literacy**

Definitions

Health literacy can be broadly understood as “the ability to access, understand, evaluate and communicate information as a way to promote, maintain and improve health in a variety of settings across the life course” (The Smith Family, n.d, p.6).

Health literacy … also relates to the adoption of positive behaviours associated with good health. Health literacy …plays an important role in the prevention of ill-health; there is a “causal pathway” between health literacy and health (Keleher and Hagger, 2007, p.25).

Health literacy can be understood as an individual’s skills and their ability to apply these skills (Australian Bureau of Statistics, 2008a, p.2).

Thinking more broadly about health literacy – why is it important?

In 2006, 41% of adults had “adequate or better health literacy skills”, scoring Level 3 or higher. Alarmingly, 19% of adults scored Level 1 and 40% of adults had Level 2 health literacy skills: “these people had difficulty with tasks such as locating information on a bottle of medicine” about dosage (Australian Bureau of Statistics, 2009b, pp.8–11). The effects of poor health literacy may include ignorance about “medical care and conditions, [and] decreased use of preventative services” (Johnston, Lea and Carapetis, 2009, p.694).

Clearly, there is a need to help Australians develop adequate levels of health literacy. In addition to the benefits to an individual’s health, there are advantages associated with increasing the health literacy of all Australians. An increase in the proportion of individuals with “adequate levels” of health literacy may also have a positive impact on the Australian health system, by preventing “illness and chronic disease” and reducing the “rates of accident and death” (Australian Bureau of Statistics, 2009b, p.8).

**Part Two: Linking health and education**

The link between poor health, disadvantage and education

Health literacy has a significant impact upon the health of all people and affects decisions made by individuals about diet, exercise and lifestyle on a daily basis.

“Education promotes health and good health leads to improved education prospects” (Johnston, Lea and Carapetis, 2009, p.693). … experiences early in life “have far reaching consequences” for health and wellbeing. Further, “educational attainment” has a positive impact upon health through numerous pathways, including greater employment opportunities as well as better health-related choices and health literacy.

Compared to the socially and economically advantaged, disadvantaged Australians “are more likely to have shorter lives, higher levels of disease risk factors and lower use of preventative health services” (Australian Institute of Health and Welfare, 2008, pp.xiii; 126).

Disadvantage tends to continue into the next generations, which in turn influences health: “family factors and personal experience of lower income, and fewer opportunities for education and employment can all affect a person’s health in many ways. This may mean less satisfactory early development before and after birth, less opportunity for health literacy, and a greater influence of family and friends towards unhealthy behaviours such as smoking, heavy alcohol use and a poor diet” (Australian Institute of Health and Welfare, 2010, p.252).

The link between literacy and health literacy is evident in parts of Australia’s Indigenous population. It is clear that “poor retention in school, illiteracy and severely reduced life expectancy are well recognised crises for many Aboriginal communities”, and education-related factors shape an individual’s level of “health literacy” (Keleher and Hagger, 2007, pp.25; 27).

“Indigenous people with low levels of educational attainment were more likely…to regularly smoke, consume alcohol at risky or high-risk levels and engage in low levels of exercise, and were also less likely to eat fruit or vegetables daily” (Australian Institute of Health and Welfare, 2010, p.245).

Indigenous health problems are significant because of “the link between poor health and impaired educational opportunity” (Australian Medical Association, 2006, pp.1; 4). Put simply, healthy children are better placed to “attend” school (Australian Bureau of Statistics, 2008b, p.25) and “learn and participate in school activities” (MCEETYA, as cited in Australian Institute of Health and Welfare, 2005).

Currently, one in seven Australian children are living in disadvantage and do not have access to the same educational, health or life opportunities that many of us enjoy and often take for granted. To get the most from life, good health and wellbeing are fundamentally important, but the ability to make healthy decisions is a skill that has to be learned.

Children‟s health in the early years: Low levels of child development

Early childhood is identified as a period when “the foundations” for subsequent health and wellbeing are established (Australian Institute of Health and Welfare, 2008, p.274). Several factors have been identified for their positive influence on “health and development”, including “good dental health, infant breastfeeding, physical activity and sound nutrition” (Australian Institute of Health and Welfare, 2010, p.301). In particular, the first three years lay the “foundation” for all aspects of child development, which is why “strengthening early childhood education” is one of the priorities of the Melbourne Declaration on Educational Goals for Young Australians (Ministerial Council on Education, Employment, Training and Youth Affairs, 2008, p.11).

The *National Headline Indicators for Children’s Health* includes dental health and the prevalence of overweight and obesity, reflecting concerns raised in recent research. It is also significant to note the inclusion of other headline indicators, such as “attending early childhood education programs”, “transition to primary school” and literacy and numeracy, as this makes clear the associations between education, literacy and health literacy…

Perhaps the most compelling evidence for the significantly poorer health and development of some children comes from the Australian Early Development Index (AEDI). This index measures five domains of early childhood development, including “physical health and wellbeing”.4 The AEDI was completed nationally for the first time in 2009, when data was collected from 97.5% of the five-year-old population in Australia (over 260,000 children). The data highlights that “there are higher proportions of children living in the most socio-economically disadvantaged communities and in very remote areas of Australia who are developmentally vulnerable on each of the AEDI domains” (AEDI, 2009, p.iv).

**Part 3: Key health and nutrition issues – children and young people**

Overweight and obesity

The Longitudinal Study of Australian Children 2008–09 recorded…rates of overweight and obesity among children: 23% of 4–5 year olds and 24% of 8–9 year olds (Australian Institute of Family Studies, 2009). A smaller national study of almost 8000 young people found that 8.6% of Indigenous children (6–11 years) were obese and 16% were overweight (O‟Dea, 2006).

Overweight and obesity have serious health implications for children, including an increased risk of developing asthma and Type 2 diabetes. In addition, overweight and obese children may be susceptible to bullying and “victimisation”, leading to negative peer interactions and experiences of school (Australian Institute of Health and Welfare, 2009, p.75), all of which can detrimentally affect mental health and learning.

The Australian National Children‟s Nutrition and Physical Activity Survey found that the highest level of non-observance of dietary guidelines was in the following categories “vegetables, saturated fat and sugar for all age groups as well as fruit and dairy intake for those 9 years and 18 and over”. Only 1–2% of older children “appeared to consume 3 serves of fruit if juice was not included” and “about one quarter of children in the younger age groups and 1–11% of the older age groups met the guideline for vegetable intake” (Australian Government Department of Health and Ageing, 2008a, pp.2; 24).

For young children in particular, the family is one of the biggest influences on their “food preferences and intake patterns” (Vereecken, Keukelier and Maes, 2004, p.93). This influence is exerted in several ways. In particular, the decisions made by parents determine the food that is available for children. Parents play three important food roles: they are “role models” of consumption, “providers of food”, and they control the eating environment (Pettigrew, 2009, p.149; Vereecken, Keukelier and Maes, 2004). Parents also model decisions about food to their children through choices made at the supermarket, including the extent to which they use food nutrition labels or purchase products out of habit.

Parents must: believe that fruit, juice and vegetable consumption is positively linked to their child’s development, and possess the “knowledge, skills and self-efficacy” to purchase, prepare and encourage their children to eat fruit, juice and vegetables (Cullen et al., 2000, p.347). In relation to the purchase of food, one of the skills parents need is the **ability to comprehend the nutritional information on food labels**. This has two benefits: firstly, consumer use of food labels is associated with making healthy food choices (Barreiro-Hurle, Gracia and de-Magistris, 2010). Secondly, this models good practice to offspring and leads to healthier food intake. However, the use of food labels is also linked to an individual’s nutrition knowledge and level of motivation (Soederberg Miller, Gibson and Applegate, 2010).\

Parental modelling of positive food choices is also shaped by socio-economic factors, including the mother’s level of education. Providing nutrition education and information to young mothers can lead to improvements in the food intake of their children (Vereecken and Maes, 2010, pp.44; 50). Given that a mother’s food intake appears to exert a strong influence on the development of her young children’s healthy eating habits, it is vital to equip parents with the skills to help them become better models of healthy eating (Vereecken, Keukelier and Maes, 2004).

Despite consumer interest in nutrition information on food labels (Grunert and Wills, 2007), there are numerous obstacles to the use of nutritional labels, including lack of motivation as well as literacy barriers (Sullivan, 2003). Developing parents’ interest in eating healthy food has the greatest potential to contribute to more prevalent use of nutrition information on food labels (Grunert, Wills and Fernandez-Celemin, 2010).

Food insecurity

* Food insecurity is “the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways” (Kendall, as cited in Nolan, Rikard-Bell, Mohsin and Williams, 2006, p.247). There are four categories of food insecurity “food secure”, “food insecure without hunger”, “food insecure with hunger” and “food insecure with severe hunger” (Temple, 2008, p.651).
* Factors influencing access to food, including: transport, skills and knowledge, storage facilities, preparation and cooking facilities, time and mobility and social support” (Temple, 2008, p.662–663)
* The “ability to access shops”, the cost of food and “having adequate time to shop, prepare and cook food independently predicted household food insecurity” (Nolan et al., 2006, p.252).
* “Food insecurity is associated with poor health” (Booth, as cited in Nolan et al., 2006, p.247).
* Children and young people generally lack agency and must rely on the decisions made by their parents or carers, which are shaped by financial constraints and numerous other factors such as the desire for convenience. Parents need “information and support” to help promote healthy child development (Giallo, Treyvaud, Kienhuis and Matthews, 2008, p.43).
* It is alarming that “households with no capacity to save money were five times more likely to be food insecure than households that could save” (Nolan et al., 2006, p.252), particularly considering the important interplay between “nutritional stability, young children, and learning” (Winicki and Jemison, 2003, p.8).

Access to low-cost, healthy food

* The “availability and cost” of healthy food is an issue facing many Indigenous Australians (Crengle et al., 2009, p.73) that is clearly linked to under nutrition and other health conditions (Australian Bureau of Statistics, 2008b, p.xxii).
* Aboriginal and Torres Strait Islander children are “nearly 30 times more likely to suffer from nutritional anaemia and malnutrition up to 4 years of age” (Australian Medical Association, in Freemantle and McAullay, 2009, p.67).
* Given that “poor nutrition severely limits a child’s capacity to concentrate and learn at school” (Australian Institute of Health and Welfare, 2005, p.23), it is alarming to consider that “Australia is the only developed country with high rates of under nutrition in its Indigenous population” (Ruben, 2009, p.1290). Consequently, a key target of the Close the Gap Campaign is a “dramatic increase in the availability of fresh and healthy food supplies in Aboriginal and Torres Strait Islander communities” (Close the Gap 2030 Community Guide).
* Obesity and nutrition were identified as strategic areas for action in the Overcoming Indigenous Disadvantage Report (2009). Without support, the disadvantage children experience today is likely to continue into adulthood – and on to the next generation.

Dental health

Dental decay is the “most common chronic disease among children” (Parliament of NSW, 2009, p.123). Was a decline in the number of children (5–11 years) who underwent preventive treatment, and “this decline was particularly evident among uninsured children, children living in rural and remote areas and non-cardholders” (Ellershaw and Spencer, 2009, pp.vi; 37; 41)

A recent report observed that a greater proportion of Aboriginal and Torres Strait Islander children aged 4–15 years had higher rates of dental caries than other Australian children. Even among children in the disadvantaged (4–6 years) category, disadvantaged Indigenous children fared worse, with a dmft[[1]](#footnote-1) score 2.5 times higher than their non-Indigenous peers. Further, Indigenous children under 5 years had a hospitalisation rate of almost one and a half times that of other Australian children for dental treatment (Jamieson, Armfield and Roberts-Thomson, 2007a, p.62). Alarmingly, less than 5% of remote Indigenous preschool children regularly brush their teeth (Jamieson, Armfield and Roberts-Thomson, 2007a). Apart from pain, there are broader implications of oral disease that can impact upon Indigenous people, including tooth loss, problems with speech and eating and decreased self-esteem (Low et al., as cited in Jamieson, Armfield and Roberts-Thomson, 2007a), all of which can negatively affect learning.

Eye and ear health

Eye and ear problems “impair participation in education and limit employment opportunities” (Hudson, 2009, p.5). Among Indigenous children, the occurrence of “ear/hearing problems, including total/partial hearing loss” and middle ear infections is three times higher than for non-Indigenous children (Australian Bureau of Statistics, 2006, p.6). It is clear that Indigenous children whose hearing is damaged are significantly disadvantaged in the classroom, particularly in the areas of “reading and language acquisition”. In addition, evidence suggests that Indigenous children with CSOM have lower school attendance rates than other children (Australian Institute of Health and Welfare, 2005, p.23).

Trachoma is an eye disease of early childhood and the most common cause of infectious blindness. Australia is “the only developed country to still have blinding endemic trachoma”. Research indicates that between 20% and 30% of Indigenous children in “rural and remote Australia” are afflicted with trachoma. Trachoma can be treated with antibiotics and prevented with good facial hygiene (Crengle et al., 2009, p.85). Education and preventive measures, if communicated effectively, could make a significant contribution to reducing the risk of eye and ear problems and enhance the learning of Indigenous students by preserving their vision and hearing. Significantly, research exploring the links between health and education among Indigenous people is limited (Johnston, Lea and Carapetis, 2009).

**Part Four: Enhancing learning through improved health and nutrition**

There is a growing body of research that highlights positive links between nutrition, physical activity, learning and school performance

Nutrition, food insecurity and school meals

Diet quality also impacts upon academic performance and “is related to development, cognitive and behavioural outcomes” (Sorhaindo and Feinstein, 2006, p.22). The evidence for promotion of physical activity and a diet low in fat, salt and sugar but high in fruits, vegetables and complex carbohydrates remains unequivocal in terms of health outcomes for all schoolchildren” (Ellis et al., 2008, p.933).

Breakfast

General health benefits associated with breakfast consumption include the likelihood of “better overall diet quality” and “more healthful body weights in children and adolescents, despite possibly higher daily energy intakes in breakfast consumers”.

A recent Australian study of over eight hundred youths aged 13 to 15, …concluded that “a higher-quality breakfast, consisting of foods from multiple food groups, was significantly related to better mental health scores in adolescents” (O‟Sullivan et al., 2008, p.257), highlighting that diet quality can impact positively on mental health. This is significant given that the World Health Organization predicts that “depression will be the second greatest disease burden on the world by the year 2020” (Cahill and Freeman, 2006, p.82).

However, the nutritional quality of the food consumed for breakfast is important; it is not enough to simply eat breakfast. Recent research found that a quality breakfast composed of “three or more food groups” was “positively associated with overall diet quality” (O‟Sullivan et al., 2008, pp.252; 255). Significantly, another study concluded that “adolescents who eat breakfast and other meals regularly are more likely to display other healthy behaviours, such as a good diet, lower alcohol consumption and abstinence from smoking” (Lien, as cited in O‟Sullivan et al., 2008, p.254).

Significantly, there is evidence of a link between disadvantage and the consumption of poor quality breakfast. Adolescents with “lower breakfast quality scores were significantly more likely to be female, have mothers with a younger maternal age and a lower level of maternal education, come from lower-income families, have higher screen use and be less physically active” (O‟Sullivan et al., 2008, p.252). Without support, the disadvantage young people experience today is likely to continue into adulthood – and on to the next generation.

# Bibliography

The Smith Family. (2011). *How is learning enhanced through improved nutrition?* Sydney: The Smith Family.

1. Decayed, missing, filled teeth [↑](#footnote-ref-1)